

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-20. (cancelled)

21. (currently amended) A feeder element for use in metal casting, said feeder element having a first end for mounting on a mould pattern, an opposite second end for receiving a feeder sleeve and a bore between the first and second ends defined by a stepped sidewall which comprises a first series of sidewall regions in the form of rings of increasing diameter interconnected and integrally formed with a second series of sidewall regions, said feeder element being irreversibly compressible in use whereby to reduce the distance between said first and second ends, wherein an initial crush strength in response to a force applied between the first and second ends is no more than 5000 N, ~~and wherein the compression is non-reversible.~~

22. (canceled)

23. (previously presented) A feeder element as claimed in claim 21, wherein the initial crush strength is at least 500 N.

24. (canceled)

25. (previously presented) A feeder element as claimed in claim 21, wherein compression is achieved through the deformation of a non-brittle material.

26. (canceled)

27. (currently amended) A feeder element as claimed in claim 26 21, wherein said rings are circular.

28. (currently amended) A feeder element as claimed in claim 26 21, wherein said rings are planar.

29. (currently amended) A feeder element as claimed in claim 26 21, wherein the sidewall regions are of substantially uniform thickness, so that the diameter of the bore of the feeder element increases from the first end to the second end of the feeder element.

30. (currently amended) A feeder element as claimed in claim 26 21, wherein the second series of sidewall regions are parallel to the bore axis.

31. (currently amended) A feeder element as claimed in claim 26 21, wherein the angle defined between the bore axis and the first sidewall regions is from about 55 to 90°.

32. (currently amended) A feeder element as claimed in claim 26 21, wherein the sidewall region defining the first end of the feeder element is inclined to the bore axis by an angle of 5 to 30°.

33. (currently amended) A feeder element as claimed in claim 26 21, wherein the thickness of the sidewall regions is from about 4 to 24% of the distance between the inner and outer diameters of the first sidewall regions.

34. (previously presented) A feeder element as claimed in claim 33, wherein a free edge of the sidewall region defining the first end of the feeder element has an inwardly directed annular flange .

35. (previously presented) A feeder element as claimed in claim 21, wherein the sidewall of the feeder element is provided with one or more weak points which are designed to deform or shear in use under a predetermined load.

36. (previously presented) A feeder element as claimed in claim 35, wherein the sidewall is provided with at least one region of reduced thickness which deforms under a predetermined load.

37. (previously presented) A feeder element as claimed in clam 35, wherein the sidewall is provided with one or more kinks, bends, or corrugations which cause the sidewall to deform under a predetermined load.

38. (previously presented) A feeder element as claimed in claim 35, wherein the bore is frustoconical and bounded by a sidewall having at least one circumferential groove.

39. (currently amended) A feeder system for metal casting comprising a feeder element ~~in accordance with claim 24~~ and a feeder sleeve ~~secured thereto~~ said feeder element having a first end for mounting on a mould pattern, an opposite second end to which the feeder sleeve is secured and a bore between the first and second ends, said feeder sleeve having an opening at one end thereof in communication with the bore of the feeder element, said feeder sleeve being secured to the second end of the feeder element at said one end of the feeder sleeve, wherein the feeder element is irreversibly compressible in use whereby to reduce the distance between said first and second ends, and wherein an initial crush strength of the feeder element in response to a force applied in a direction of the bore axis is no more than 5000N and an initial crush strength of the feeder system is the same as that of the feeder element.

40. (previously presented) A feeder system in accordance with claim 39, in which the feeder sleeve is secured to the feeder element by adhesive or by being a push fit with the feeder element or by moulding the sleeve around part of the feeder element.

41. (previously presented) A feeder element as claimed in claim 21 wherein the feeder element is made from a metal selected from steel, aluminum, aluminum alloys and brass.

42. (previously presented) A feeder element as claimed in claim 21 wherein the feeder element is made from steel.

43. (previously presented) A feeder element as claimed in claim 21 wherein the crush strength is at least 500 N and no more than 3000 N.

44 (currently amended). A feeder as claimed in claim 26 21 wherein the thickness of the sidewall regions is 0.4 to 1.5 mm.

45 (new). A method of forming one part of a casting mould, said method comprising,

providing a mould pattern and a feeder system, said feeder system comprising a feeder sleeve and a feeder element, wherein the feeder element has a first end and an opposite second end and a bore between the first and second ends defined by a sidewall, the feeder sleeve having an opening at one end thereof in communication with the bore of the feeder element, said feeder sleeve being secured to the feeder element at the second end of the feeder element such that a flowpath exists through the bore and into the feeder sleeve, the feeder element having an initial crush strength of no more than 5000N measured along the bore axis;

mounting the first end of the feeder element on the mould pattern;
pouring sufficient moulding sand onto the mould pattern to cover the feeder sleeve; and
applying a compressive force to the moulding sand in the general direction of the bore axis of the feeder element, such that the sand compacts and the feeder element compresses irreversibly whereby the distance between the first and second ends of the feeder element is reduced.